Liberal Green Urbanism

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> *The architect should be equipped with knowledge of many branches of study and varied kinds of learning, for it is by his judgment that all work done by the other arts is put to test. This knowledge is the child of practice and theory… It follows therefore, that architects who have aimed at acquiring manual skill without scholarship have never been able to reach a position of authority to correspond to their pains, while those who relied only upon theories and scholarship were obviously hunting the shadow, not the substance. -Vitruvius*

Years ago, while teaching a detailing studio at Parsons School of Design, I assigned Mary Shelley's *Frankenstein* so that we could discuss the designer's moral responsibility for his use of technology. To keep it short, I cut out the monster's tale of unrequited love. "How could you cut out the love story!?" was the students' reaction, "It's gotta be the most important part!" and they were absolutely right. My students realized Dr. Frankenstein was not only responsible FOR his creation, as a designer he was answerable TO his creation.

My architecture students' schedules at Parsons were dominated by studio assignments, but they struggled to find an outlet for their interests in the liberal arts. Where does design fit, as an academic discipline? Is it located somewhere between the sciences and the humanities? … or running parallel beside? What does "good" design mean beyond "beautiful" "accomplished" and "well-resolved"? Despite the vocational focus of accredited programs, design students will look for wider meanings.

Liberal arts students have the opposite problem. When my liberal arts students at Fordham University first realize their interests in design, they are enmeshed in the college's "Common Core Curriculum". My students struggle to find time for design work in academic schedules dominated by critical reading, science labs, and essay writing. This paper is about the reciprocal relations between design education and the liberal arts, as those relationships in turn relate to the experiences and perceptions of the beginning design student.

The metaphors we use may mislead. In design education, we often talk of 'foundation' courses, for example in drawing and visual thinking. But are these preliminary studies a 'foundation' upon which architectural education sits, or tools that permeate the whole structure of our practice? In the liberal arts, we talk of 'core' courses in philosophy, math, religion, science, and so on. But are these

disciplines really the 'core' of some educational 'apple', or are they tools for ready analysis; ways of thinking; means for other ends?

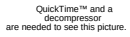
At the universities founded in the middle ages, it was generally agreed that writing - the clerical trivium (grammar, logic, and rhetoric) - was the foundation for the rest of the arts and sciences, the quadrivium (arithmetic, geometry, music and astronomy). Design is omitted, because at that time design was the mainstay of the guilds; guild-masters designed what their workshops produced, and trained their apprentices accordingly. Alberti was among the first to see the liberal arts as an environment for design training, since he saw the recovery of classical orders and construction technologies as part of a wider renaissance project. Alberti's approach - design as a part of the liberal arts- cannot be considered typical, however. Workshop apprentices like Michelangelo, Van Eyck, and Leonardo confronted great questions with their eyes, hearts and hands. From the middle ages to the renaissance, design education and academic education were generally separate but became equal. In the process, art was accorded membership in the liberal arts.

It is in accordance with this model - design as a member of the liberal arts -- that I teach my undergraduates at Fordham. Fordham prides itself on providing a rigorous liberal arts education. When a student enrolls into an architecture course, they have already taken ten to twenty college courses in English, Philosophy, Theology, Math, Science, and History. Those who have enrolled in a Major in Visual Arts, Urban Studies or Environmental Studies may have taken some introductory courses in these areas, but generally, my students have no clue they might be designers.

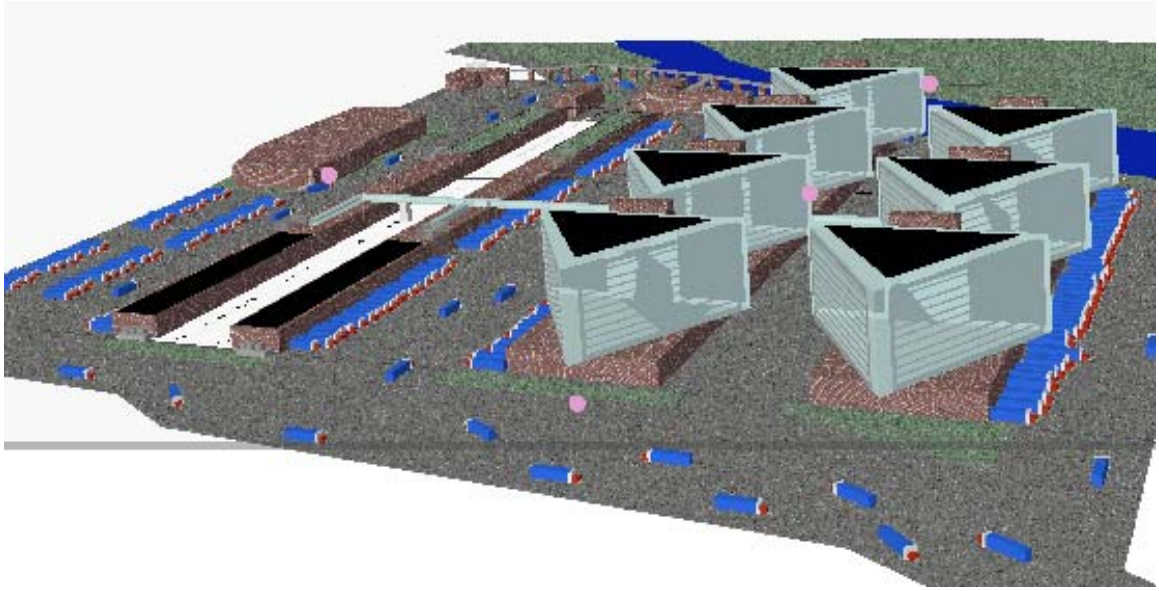
I am not unbiased in my approach to teaching. As an active practitioner of green architecture and urban design <http://www.kisscathcart.com>, I come to the university interested in teaching what I know. This bias limits my interest in teaching the usual 'value-free' Bauhaus abstractions, but it also leads to some interesting connections between architectural and liberal arts practices, as we shall see. So I throw my students "into the deep end of the pool".

To show you what I mean, I'd like to show you some work from an introductory studio called "Design and Nature" in which only about a third of the students had had any prior studio experience. Working in teams of three, the students were assigned the Hunts Point Terminal Market in the Bronx, by far the largest produce market in North America, with 1/9 of all produce grown in the United States flowing through it. Despite its success, the market is beset by circulation conflicts (trucks vs rail cars), storage incapacity, phasing

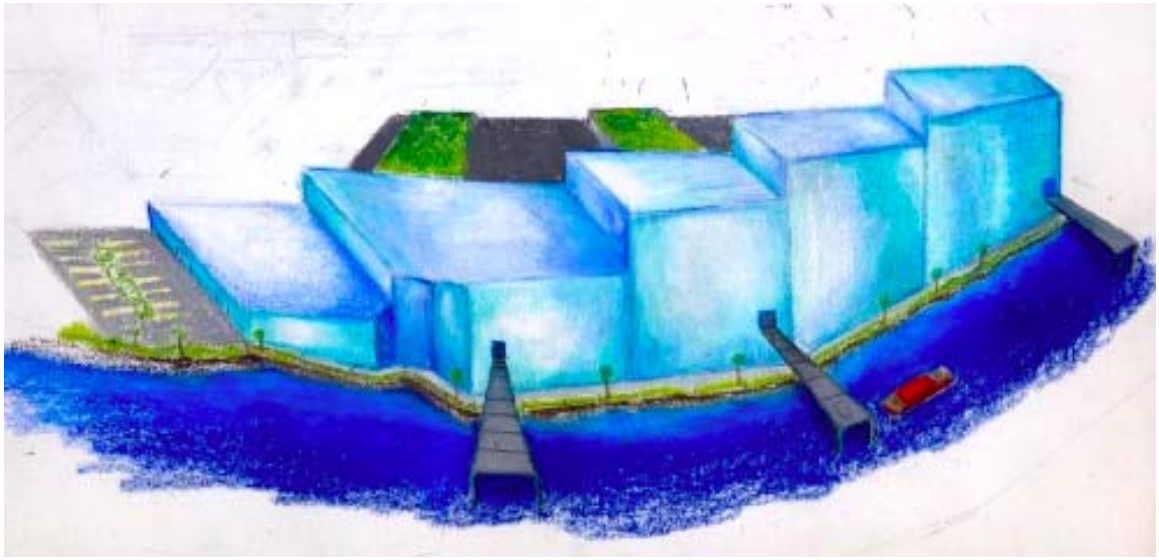
imperatives (they can never close), pollution problems and energy issues. Here is a recent aerial photo of the facility on a typical day, chock full of tractor-trailers. The Bronx River curls around the site to the north and east.



Terminal Market executives gave the students a walking tour and a lecture called "Produce 101" at the beginning of the term, and were invited to come to review the results of the studio several months later. They were pleasantly surprised by the students' "outside-the-box" design solutions. Here is an aerial perspective of the proposed redevelopment of Hunts Point Terminal Market by the student team of Ripper, Hopkins and Ralph, showing vertical farming in triangular mid-rise towers above automated warehouse facilities. (The older loading docks – retained for phasing requirements -- are to the left, the Bronx river flows in the background).



In this view from east of the river by the team of Calcaterra, Gilbert and O'Brien, proposed green-roofed additions to the existing shipping facilities can be seen beyond stepped greenhouses for urban agriculture, pierced by new barge-docking facilities.



This aerial view from the northwest of the scheme by Moran, Fletcher and Kobus shows an enormous parkland roof over a new multi-story facility served by a dedicated off-ramp from the Bruckner Expressway.

What surprised me were the ways in which each project was fully imagined. Ripper, Hopkins and Ralph provided detailed planting lists and even showed how the facility would be decorated for winter holidays. Calcaterra, Gilbert, and O'Brien opened their building to the public with cafes, learning centers, and community gardens. Moran, Fletcher and Kobus were sensitive to the politics of the neighborhood, providing a new park and taking all truck traffic off local streets.

Initially, most of the students did not respond to the challenges of the studio as designers, but more as concerned students becoming familiar with a certain set of issues. Few of these students were Visual Arts Majors, most were in Urban Studies or Environmental Studies. It was only as each team's design started to take shape that certain design skills started to emerge. A pre-dentistry student re-discovered watercolors. An environmental studies major pencil-sketched what she saw in her head. Non-design skills were also needed in such a broadly defined project: visual arts majors calculated yearly produce tonnages.

Ironically, the designs became stronger, more comprehensive propositions, especially considering these are beginning designers, because the students were doing heavy liberal arts coursework at the same time, far heavier than a specialized design student would normally undertake. The environmental studies students were doing courses in global ecology, environmental history or ethics. The urban studies students were taking courses in urbanism, urban politics, or community development. Because these liberal arts students are accustomed to thinking broadly, our accustomed disciplinary boundaries between planning, architecture and landscape were effortlessly crossed. If they enjoyed their work, students who thought they might become environmental attorneys or community developers became interested in applying to graduate design schools instead.

Design may be seen as an 'applied' liberal art, applied to a network of contemporary problems, especially those of sustainability or urbanism, however the propositional nature of design investigations may also serve to thrust academic inquiries into the arena of the real world. Design becomes the ambassador of the liberal arts. Students seem to become more committed designers when their other coursework gives them good reasons to design. Where design schools try to innovate from inside design, an introduction to design in a liberal arts setting tests design tools from outside their accustomed limits, just as Vitruvius insists.